What is claimed is:

1. A catheter assembly comprising:

a hub section located at a proximal end of said catheter;

a shaft section attached to a distal end of said hub;

a stem section connected to a distal end of said shaft, said stem section comprising one or more openings formed in a sidewall of said stem section; and

a distal tip section attached to a distal end of said stem section, said distal tip section including a small opening located at a distal end of said tip.

2. The catheter assembly of claim 1 wherein said shaft comprises a multilayered tube including layers made of 55D durometer Pebax® .

3. The catheter assembly of claim 1 wherein said stem section is made of a material that is softer than said shaft material.

4. The catheter assembly of claim 3 wherein said material of said stem section is 45D durometer Pebax® loaded with Bismuth Trioxide.

5. The catheter assembly of claim 1 wherein said distal tip section is approximately 3mm in length and has a radius of curvature of approximately 0.69mm.

6. The catheter assembly of claim 1 wherein said distal tip section is made of 35D durometer Pebax® loaded with Bismuth Trioxide.

7. The catheter assembly of claim 1 wherein said openings are holes.

8. The catheter assembly of claim 1 wherein said stem section includes twelve openings.

9. The catheter assembly of claim 1 wherein said stem section includes eight openings.

10. The catheter assembly of claim 1 wherein said stem section includes four openings.

11. The catheter assembly of claim 1 wherein said openings of said stem section are angled toward the proximal end of said catheter.

12. The catheter assembly of claim 11 wherein said openings cause fluid exiting an internal lumen of said catheter to flow in a retrograde direction to a fluid stream.

13. The catheter assembly of claim 1 wherein said small opening is approximately 0.305mm in diameter.

14. The catheter assembly of claim 1 wherein said distal tip is made of an elastic material.

15. The catheter assembly of claim 1 wherein said openings of said stem section and said opening of said distal tip are configured to provide a cumulative, substantially zero fluid-force vector in all directions.

16. The catheter assembly of claim 1 wherein a quantity, size and arrangement of said openings in said stem section and said tip section provide proper balancing of distal and lateral forces created by a forward and rearward motion, respectively, of fluid as it flows out from an internal lumen and exits said openings of said catheter.

17. A catheter for use in performing a medical procedure comprising:

an elongated tubular structure having a proximal end and a distal end;

said tubular structure being a size of no greater than about 4 French;

said tubular structure enabling fluid flow rates in a range of approximately 0 to 40 ml/sec without failure of said tubular structure; and

said distal end of said catheter having an elastic restrictor and a plurality of openings arranged such that forces resulting from said fluid flow are substantially balanced during performance of said medical procedure.

18. The catheter of claim 17 wherein said distal end of said catheter is made of a material that is softer than a material of said proximal end.

19. The catheter of claim 17 wherein said restrictor comprises a diameter of approximately 0.305mm.

20. The catheter of claim 17 wherein each of said openings is approximately 1.22mm in length 0.33mm in diameter.

21. A method of performing a medical procedure comprising:

providing a catheter having a proximal end and a distal end and having a size no greater than about 4 French;

introducing said catheter into a patient;

introducing a fluid into the patient at a flow rate in the range of approximately 0 to 40 ml/sec without failure to said catheter; and

balancing forces acting on said catheter resulting from the introduction of fluid flow by variably restricting the fluid flow at the distal end of said catheter according to said flow rate and by directing fluid out of a plurality of openings in a wall of said catheter.

22. The method of claim 21 wherein said balancing of forces results in a cumulative, substantially zero fluid-force vector in all directions, thereby preventing dislodgment of said catheter.

23. A fixture for measuring catheter movement during a simulated injection procedure comprising:

a plurality of walls forming at least one chamber;

a first wall having one or more openings sized to hold a catheter; and

a second wall including a grid such that catheter movement is calculated and scaled against said grid.

24. The fixture of claim 23 wherein said walls of said chamber are transparent.

25. The fixture of claim 24 wherein said walls are made of acrylic.

26. The fixture of claim 23 wherein said grid comprises a plurality of squares.

27. The fixture of claim 26 wherein each of said squares are 5mm X 5mm.

28. A method of measuring catheter movement during a simulated injection procedure comprising:

filling a chamber of a test fixture with fluid;

suspending a catheter from said fixture;

flowing an amount of a fluid at a controlled flow rate through said catheter; and

measuring catheter movement against a grid on said test fixture.

29. A fixture for measuring fluid backflow from a catheter during a simulated injection procedure comprising:

a plurality of walls forming a first chamber and a second chamber, wherein said first chamber and said second chamber are filled with a fluid;

a first wall having one or more openings sized to hold a catheter; and

a second wall separating said first chamber and said second chamber and including an opening such that an amount of dyed fluid flowing from said catheter into said first chamber and said second chamber can be measured based on a visual comparison and rating of dye density between said first chamber and said second chamber.

30. The fixture of claim 29 wherein said walls are transparent.

31. The fixture of claim 30 wherein said walls are acrylic.

32. A method of measuring fluid backflow from a catheter during a simulated injection procedure comprising:

filling a first chamber and a second chamber of a test fixture with fluid;

suspending a catheter from said fixture;

positioning said catheter in an opening of a wall separating said first chamber from said second chamber;

flowing an amount of a dyed fluid at a controlled flow rate through said catheter; and

visually comparing and rating dye density between said first chamber and said second chamber.

33. The method of claim 32 wherein said fluid is transparent.

34. The method of claim 32 wherein said positioning includes locating a distal end of said catheter in an opening of said wall.

35. The method of claim 32 wherein said positioning includes extending a distal end of said catheter beyond an opening of said wall.